



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/911,015 | 07/23/2001 | Lucio Dell'Acqua | 163-336 | 3502 |

7590 03/02/2004

James V. Costigan, Esq.
HEDMAN & COSTIGAN, P.C.
Suite 2003
1185 Avenue of the Americas
New York, NY 10036-2646

EXAMINER

CONLEY, SEAN E

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

1744

DATE MAILED: 03/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/911,015

Applicant(s)

DELL'ACQUA ET AL.

Examiner

Sean E Conley

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The amendment filed November 21, 2003 has been received and considered for examination. Claims 1-8 have been amended as well as the specification. The objection to claims 6-8 has been withdrawn in response to the amendment.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

Art Unit: 1744

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Pat. 4,752,422 to Uchida et al. in view of Tsai (U.S. Pat. 6,135,427) and Kawamura et al. (JP 63134332).

Uchida et al. disclose an ultrasonic humidifier which atomizes water in order to produce a water spray in the form of a mist. The device comprises a portable container body (1) that is divided into multiple compartments. The first compartment (15) is the utility chamber and the second compartment (4) is the spraying chamber. The first compartment has a body (5) that has an inlet channel for a cleaning fluid such as water, and an exit channel for the atomized liquid and vapor generated. At the bottom of the above body (5) there are ultrasonic vibrators (3) activated by an electric circuit in order to create the immediate atomization of the liquid to be applied (see figure 1, column 1, line 25 to column 2, line 52). A cylindrical blowing nozzle (30) rotatably mounted at the top of the spraying chamber (4) directs the vapor. Additionally, in the first compartment is a blower (12) which creates a stream of air that is directed through a perforated wall (17) which separates compartments (15) and (4). However, Uchida et al. fails to teach a means of grasping the neck of a cleaning liquid jar and also fails to teach a piezoelectric element.

Tsai discloses a compact, small size humidifier which may be used as a portable humidifier. The humidifier includes an opening for receiving a number of different sockets allowing use of different sized water bottles as the water tank. The different sockets may be detachably affixed to the humidifier body. The humidifier has a connecting hole (142) which includes an annular protrusion (143) on the inner side of the wall thereof. A socket (2) is provided with inner screw threads (22) on its inner circumferential surface, and an annular recess (21) on its outer surface. A liquid container or bottle (3) is detachable connected to the socket by way of screw threads (31) on the bottle (3), which are engaged with the inner screw threads (22) of the socket (2). The bottle (3) is now attached to the socket and the combination is inserted into the connecting hole (142). The annular recess (21) of the socket (2) engages the annular protrusion (143) of the wall in the connecting hole (see fig 1 and column 3, lines 21-55). Additionally, it is shown in figure 10 that the electronic vibration control circuit (432, 434) and the fan (5) are fed by the same electric power supply (A). This reference has been relied upon to teach that it is known to provide a means of grasping the neck of a cleaning liquid jar in a device that atomizes a liquid.

Kawamura et al. disclose a humidifying device which excites a piezoelectric element by a supersonic wave electric power source and vaporizes water droplets. The humidifying device is used to maintain the freshness of fruits (see translated abstract).

Uchida et al. discloses the claimed invention except for the means of grasping the neck of the cleaning jar and a piezoelectric element. Tsai teaches that it is known to include in a humidifier a means to grasp the neck of the liquid jar. Therefore, it would

Art Unit: 1744

have been obvious to one of ordinary level of skill in the art at the time the invention was made to modify Uchida et al. and include a means to grasp the neck of the jar as taught by Tsai in order to prevent the neck of the bottle from separated from the humidifier and provide a means of attaching various size bottles to the humidifier.

Additionally, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Uchida et al. and replace the ultrasonic vibrators that vaporize the liquid with a functionally equivalent means such as a piezoelectric element as taught by the liquid vaporizing device of Kawamura et al. in order to vaporize the liquid using an alternative means.

6. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. in view of Tsai and Kawamura et al. as applied to claim 1 above.

Uchida et al. disclose that the body of the humidifier is formed of synthetic resin. Uchida et al. does not teach a body member that is made of plastic or metallic materials. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a plastic or metallic material to form the body, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. in view of Tsai and Kawamura et al. as applied to claim 1 above, and further in view of Dix et al. (U.S. Pat. 5,447,663).

Uchida et al., Tsai and Kawamura et al. do not teach a device that includes a handle.

Dix et al. disclose a portable humidifier with a U-shaped retracting/telescoping handle (67) (see figure 2).

Therefore, it would have been obvious to one having ordinary level of skill in the art at the time the invention was made to further modify Uchida et al. and include a handle as taught by Dix et al. in order to make the humidifier portable and easier to move.

8. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Uchida et al. in view of Tsai and Kawamura et al. as applied to claim 1 above and further in view of Tsuaki (U.S. Pat. 4,563,313).

Uchida et al., Tsai and Kawamura et al. do not teach an electronic floating device capable of communicating to the electronic circuit the level of liquid inside compartment where the liquid is atomized.

Tsuaki teaches an air humidifier that includes a water level detector that detects the water level in the water reservoir. The water reservoir (2) is located in the compartment where the water is atomized into a fine mist. The water level detector (7) is operatively disposed in the water reservoir (2). The detector (7) includes a lead

Art Unit: 1744

switch (8) mounted on the opposite side of the bottom plate (6) and a magnetic float member (9) movable along pole (10). The lead switch (8) closes when the float member (9) is below a predetermined water level due to the sensing of the float members magnetic switch (8) when float (9) downwardly moves along pole (10). The switch (8) functions in response to a detected water level in the reservoir. When the level reaches a predetermined minimum the switch closes and shuts off the ultrasonic vibrator thereby protecting the vibrating element (see column 2, lines 8-35).

Therefore, it would have been obvious to one of ordinary level of skill in the art at the time the invention was made to further modify Uchida et al. and include an electronic flotation device inside compartment (4) as taught by Tsuaki in order to monitor the level of water in the reservoir and prevent damage to the ultrasonic vibrator.

Applicant's Arguments

9. The applicant's arguments are listed below:

I. Unchida et al. and Tsai disclose humidifiers. The present invention is not a humidifier, it is a device for vaporizing disinfecting and/or cleaning fluids and delivering that vapor to objects to be cleaned.

II. Unchida et al. and Tsai do not specifically disclose a device that contains piezoelectric elements.

III. Dix et al. may disclose the use of a handle to transport a humidifier, however, it does not disclose the use of a handle on an atomizer for cleaning and/or disinfecting fluids.

Response to Arguments

10. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection. The newly cited art of Kawamura et al. disclose a humidifying device which excites a piezoelectric element using a supersonic wave electric power source in order to vaporize water droplets.

In response to the applicant's arguments, while the cited prior art may all be humidifiers, the prior art devices still read on the applicant's claimed invention. The applicant argues that the claimed device is for vaporizing disinfecting and/or cleaning fluids. However, the argument is directed to the intended use of the invention and the cleaning and/or disinfecting fluid is not given any patentable weight. The presently claimed invention can be used for vaporizing any kind of liquid.

Furthermore, the applicant argues the intended use of the handle in the cited reference to Dix et al. The Dix et al. reference has been relied upon to teach that it is known to combine a handle with a humidifier in order to transport the device from one location to another. As stated previously, the cited prior art reads on the applicant's claimed invention and even though the prior art device is used for humidifying the applicant's claims are obvious in view of these cited references.

The applicant has further amended the independent claim to include a "means for directing said cleaning and/or disinfecting vapor from said device". Uchida et al. disclose a cylindrical blowing nozzle (30) rotatably mounted at the top of the spraying chamber (4) directs the vapor. Tsai discloses a cover (145) which includes a number

Art Unit: 1744

of vapor exit openings (146) which allow the water vapor to exit into the atmosphere adjacent to the humidifier. Therefore, both of these cited references teach a means for directing a vapor from the device into the surrounding atmosphere.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

JP 55095053 A to Sugihara

United States patent Publication US 2001/0050317 to Denen

Denen discloses a device that atomizes liquids using a piezoelectric vibrator. The device is used for dispensing such liquids as perfumes, air fresheners, or other liquids. Such other liquids include household cleaning materials, sanitizers, disinfectants, repellents, insecticides, or other liquids (see paragraph [0021] and [0006]).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean Conley, whose telephone number is (571) 272-1273. The examiner can normally be reached on Monday-Friday 8:00 AM - 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Robert Warden, can be reached at (571) 272-1281. The Unofficial fax

Art Unit: 1744

phone number for this group is (703) 305-7719. The Official fax phone number for this Group is (703) 872-9310. The direct fax number to the examiner is (571) 273-1273.

When filing a FAX in Technology Center 1700, please indicate in the Header (upper right) "Official" for papers that are to be entered into the file, and "Unofficial" for draft documents and other communications with the PTO that are not for entry into the file of the application. This will expedite the processing of your papers.

Communications via Internet e-mail regarding this application, other than those under 35 U.S.C. 132 or which otherwise require a signature, may be used by the applicant and should be addressed to [robert.warden@uspto.gov]. All Internet e-mail communications will be made of record in the application file. PTO employees will not communicate with applicant via internet e-mail where sensitive data will be exchanged or where there exists a possibility that sensitive data could be identified unless there is of record express waiver of the confidentiality requirements under 35 U.S.C. 122 by the applicant. See the Interim Internet Usage Policy published by the Patent and Trademark Office Official Gazette on February 25, 1997 at 1195 OG 89.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist, whose telephone number is (703) 308-0661.

Sean E. Conley
Patent Examiner
AU 1744

SEC *AC*
February 19, 2004

Robert J. Warden Sr.
ROBERT J. WARDEN, SR.
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 1700